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CLAIMS

1. A plant for the continuous washing of plastic material in scales, of the type comprising a washing apparatus (1) equipped with at least one rotating stirrer (2) and containing a washing fluid, at least one filtering unit
5 (50) connected to said apparatus for purifying said washing fluid, a device (5) for feeding said scales to said washing apparatus (1), a device (35) for withdrawing said scales from said washing apparatus (1) and a plurality of conduits to connect in fluid communication said washing apparatus (1) and said filtering unit (50) with a circuit in which said washing fluid flows,
10 characterized by comprising means (20, 6, 36) for continuously varying the time said scales remain in said washing apparatus (1) as a function of the quantity of scales contained at the same moment in said washing apparatus.
2. A plant according to Claim 1, characterized in that said rotating stirrer
15 (2), said device (5) for feeding said scales and said device (35) for withdrawing said scales are operated by respective electric motors (6, 36).
3. A plant according to Claim 1 or 2, characterized in that said means for varying the time said scales remain in said washing apparatus (1) comprises at least one first control device (20) acting to receive as input a
20 data item representative of the current drawn by the motor (3) driving said stirrer (2) and to control the driving of said motors (6, 36) connected respectively to said device (5) for feeding said scales and to said device (35) for withdrawing said scales.
4. A plant according to Claim 1, characterized by comprising at least
25 one second control unit for varying the speed of rotation of said stirrer (2) as a function of the quantity of scales contained in said washing apparatus (1).
5. A plant according to any of the preceding Claims, characterized in that said washing apparatus (1) comprises a closed container (10) and is

surrounded by a heat-insulating covering shell (11) to form a gap (12) between the inside wall of said shell (11) and the external wall of said container (10).

5 6. A plant according to Claim 5, characterized by comprising means for making a heating fluid to circulate in said gap.

7. A plant according to any of the preceding Claims, characterized in that said washing fluid consists of an aqueous solution.

8. A plant according to any of the preceding Claims, characterized by comprising a conduit of readmission (94) that carries at least one fraction
10 of the washing fluid purified by said at least one filtering unit (50) to said device (35) for withdrawing said scales from said washing apparatus (1), the remaining fraction of said fluid being reintroduced directly into said washing apparatus (1).

9. A plant according to Claim 8, characterized by comprising at least
15 one heat exchanger device (17) located along said conduit of readmission (16, 19, 91, 93, 94) to control the temperature of said washing fluid by means of a heating fluid.

10. A plant according to Claim 8, characterized by comprising at least one device (100) located along said conduit of readmission (16, 19, 91,
20 93, 94) for monitoring the pH of said washing fluid.

11. A plant according to Claim 8, characterized by comprising at least one station (110) located along said conduit of readmission (16, 19, 91, 93, 94) for adding one or more chemical products to the aqueous solution that constitutes said washing fluid.

25 12. A plant according to Claim 6 or 9, characterized in that said heating fluid introduced into said gap (12) and in said heat exchanger device (17) consists of high temperature steam.

13. A plant according to any of the preceding Claims, characterized in that said at least one filtering unit (50) comprises at least one fine-pore filtering element (51).

14. A method for washing plastic material in scales, of the type providing
5 the feeding and the withdrawing of said scales in a continuous way to a washing apparatus (1) equipped with at least one rotating stirrer (2) and containing a washing fluid, characterized by providing the continuous regulation of the time said scales remain in said washing apparatus (1) as a function of the quantity of scales contained at the same moment in said
10 washing apparatus (1).

15. A method according to Claim 14, characterized in that the time said scales remain in said apparatus is regulated by acting on the quantity of scales fed to said washing apparatus (1) and on the quantity of scales withdrawn from said washing apparatus (1).

16. A method according to Claim 14, characterized by further providing
15 the regulation of the speed of rotation of said stirrer (2) as a function of the quantity of scales contained at that same moment in said apparatus.

17. A method according to Claim 14, characterized in that said washing apparatus (1) comprises a substantially closed container (11) in which
20 said washing fluid and said scales are maintained at a substantially constant temperature by means of a heating fluid that circulates in contact with the external surface of said container (11).

18. A method according to Claim 14, characterized by providing for the purification of said washing fluid by means of a filtering unit (50)
25 comprising at least one fine-pore filtering element (51).

19. A method according to Claim 14, characterized by providing for the control of the temperature of said washing fluid leaving said filtering unit (50) before its readmission into said washing apparatus (1).

20. A method according to Claim 14, characterized by providing for the control of the pH of said washing fluid and the addition of chemical mixtures to said washing fluid leaving said filtering unit (50) before its readmission into said washing apparatus (1).

21. A method according to Claim 14, characterized in that at least one fraction of said washing fluid is readmitted in counter-current with respect to the flow of said scales in a device (35) for withdrawing said scales from said apparatus.

22. A method according to Claim 14, characterized by maintaining a quantity of said washing fluid in said apparatus (1) that is proportional to the quantity of scales present at that same moment in said washing apparatus (1).